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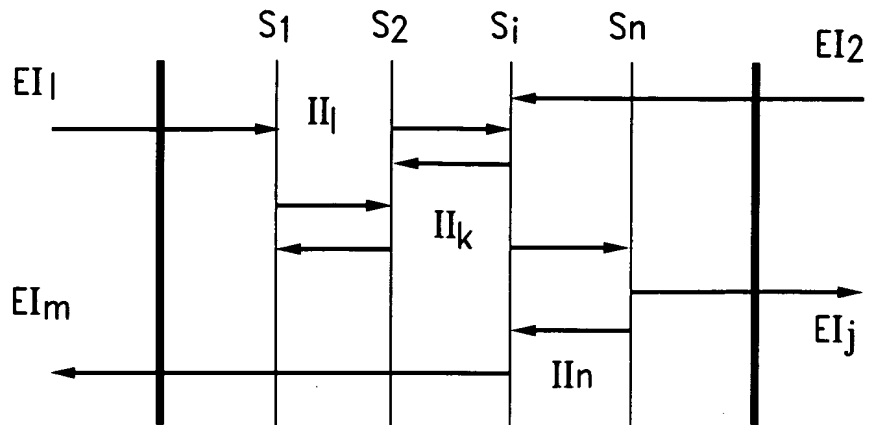
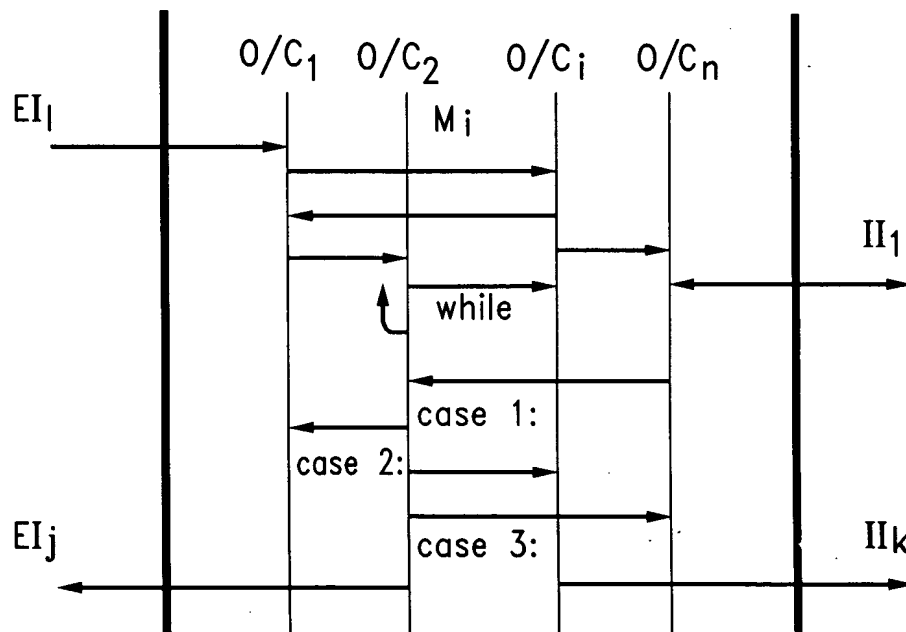
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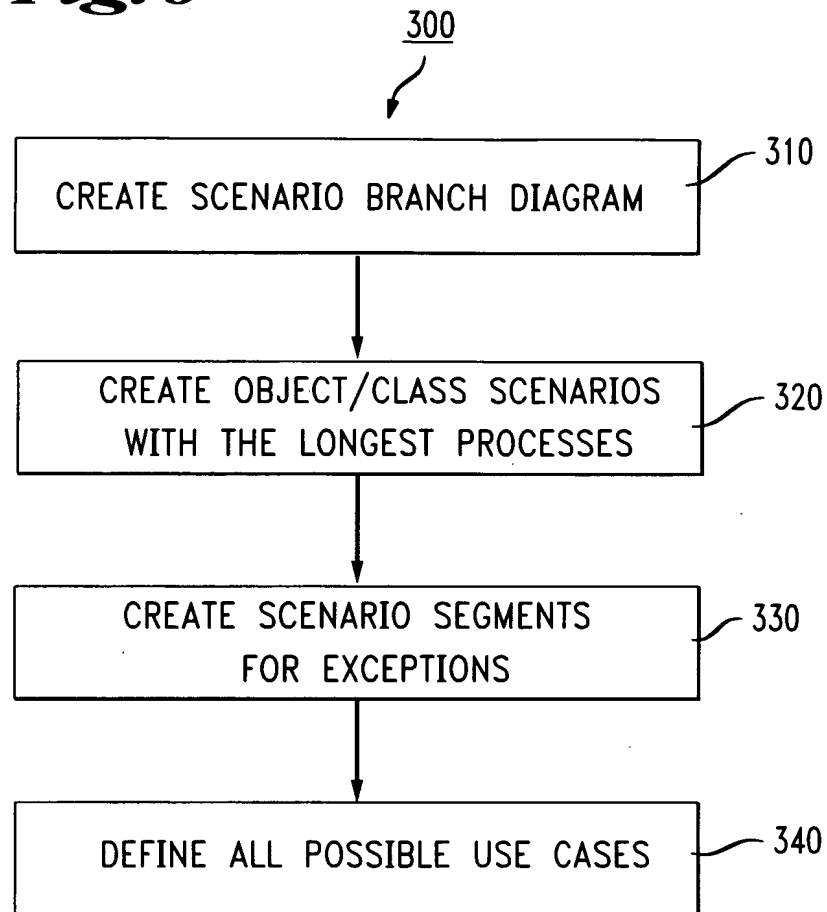
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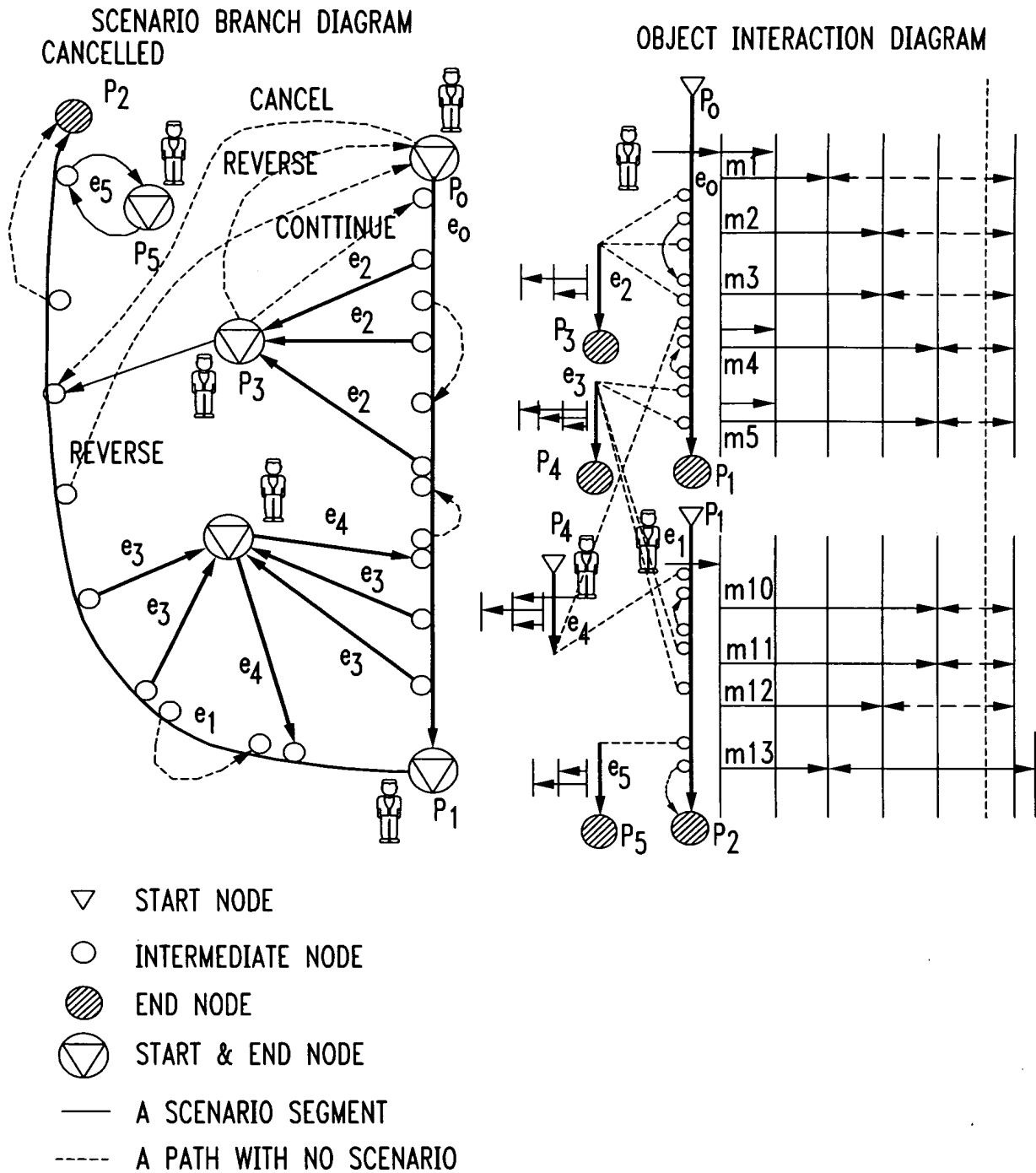
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Fig. 1PRIOR ART**Fig. 2**PRIOR ART

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Fig. 3

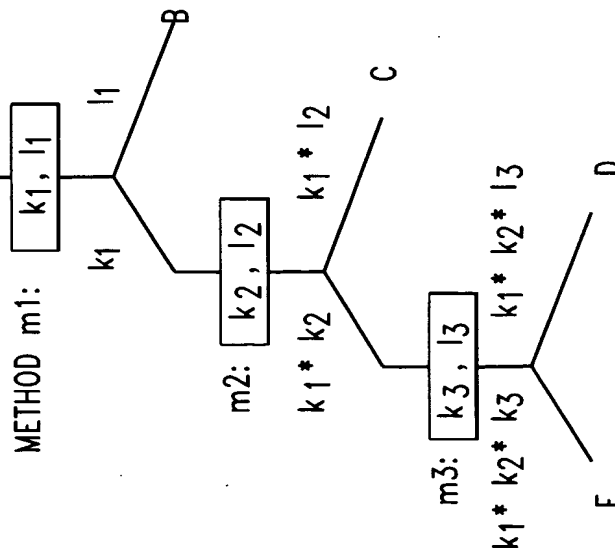
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Fig. 4

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Fig. 5**AN EXAMPLE OF USE CASE SET YPath EXECUTION COMPLEXITY**

IF METHOD i HAS $k_i + l_i$ EXECUTION PATHS, WHERE k_i IS THE NUMBER OF PATHS TO RETURN "SUCCESS," AND l_i IS THE NUMBER OF PATHS TO RETURN "FAILURE", THEN



USE CASE $A \rightarrow E$ YPath = $k_1 * k_2 * k_3$

USE CASE $A \rightarrow B$ YPath = l_1

USE CASE $A \rightarrow C$ YPath = $k_1 * l_2$

USE CASE $A \rightarrow D$ YPath = $k_1 * k_2 * l_3$

YPath IS THE MAXIMUM POSSIBLE EXECUTION PATHS:

If k_1 INCLUDES PATHS OF

"case U...; case L...; other..";

AND k_2 ALSO INCLUDES

"case U... case L... , other..";

AFTER m_2 , ACTUAL EXECUTION YPath=3 INSTEAD OF $3*3=9$;

Fig. 6

Field Name	Source: U	Source: L	Comment
r0	1	5	
r1	2	6	
r2	3	7	If (a>b) then...
r3	4	8	
r4	5	9	

Table basic semantic statement is:

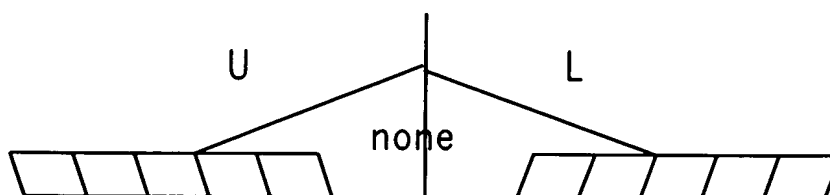
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if
((source=U)&(r0=1)&(r1=2)&(r2=3)&(r3=4)
&(r4=5)) {
    resultCode=B; actionText=C;
}
if
((source=L)&(r0=5)&(r1=6)&(r2=7)&(r3=8)
&(r4=9)) {
    resultCode=B; actionText=C;
}

```

resultCode=B; actionText=C;

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Fig. 7

The first 5 cases are: if $(r_i < > ..)$..

6 th.: if $((r_0=1) \& (r_1=2) \& (r_2=3) \& (r_3=4) \& (r_4=5))$

Path=cyclomatic complexity in this table

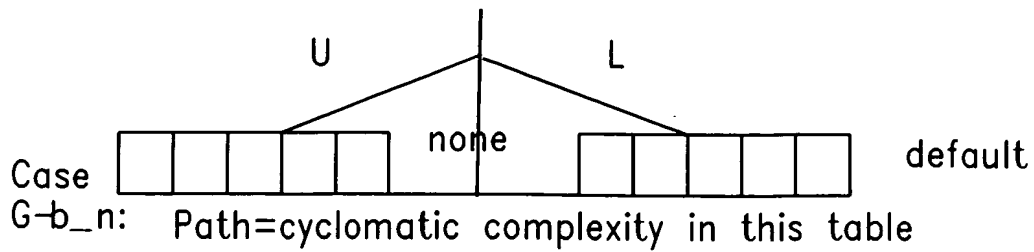
Fig. 8

Field Name	r0	r1	r2	r3	r4	ResultCode	actionCode
Source: U	1	2	3	4	5	B	C
Source: L	5	6	7	8	9	B	C
Comment			if a.				

Fig. 9

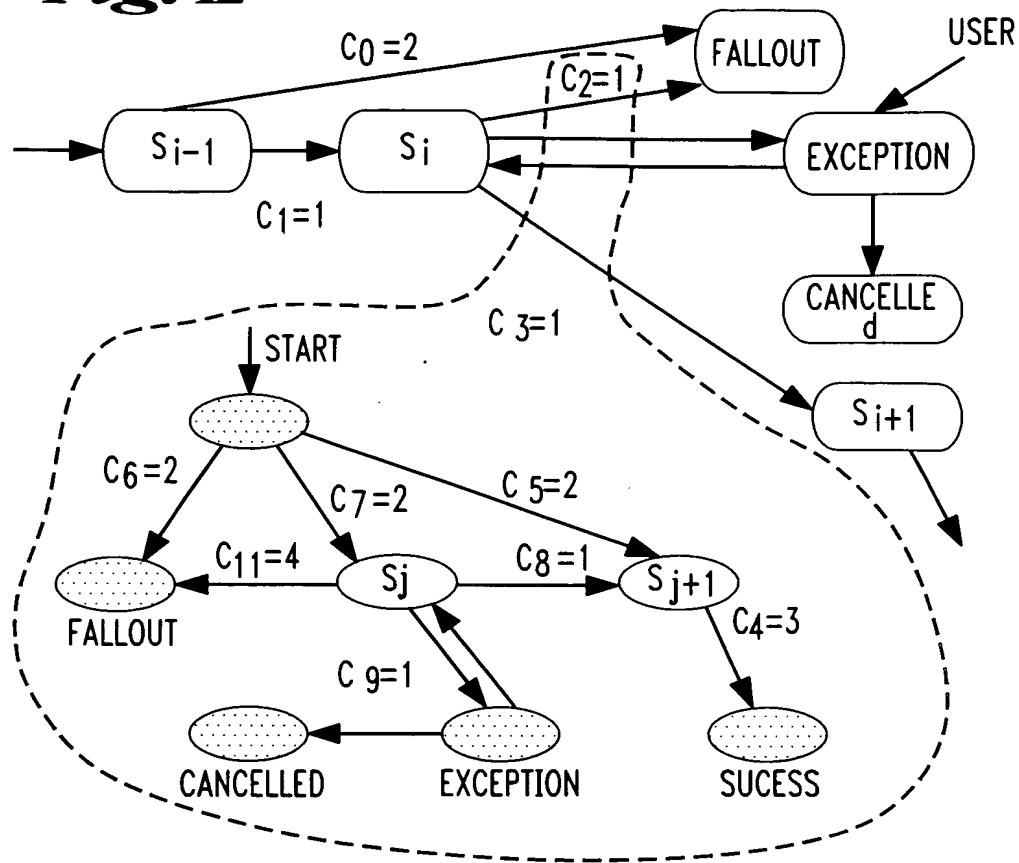
Result Code	WC action	Source	Mail-address	Action Text
G_b_n	Full_S	$-\frac{U}{L}-$	$\frac{m1}{m2}$	"..."
G_dup	No Action	$-\frac{U}{L}-$	$\frac{m1}{m2}$	" <u>duplicate</u> " " "
G-dup_0	Fallout	$-\frac{U}{L}-$	$\frac{m1}{m2}$	" <u>duplicate</u> " "Fallout"
S_dup	Action Add .. C	$-\frac{U}{L}-$	$\frac{m1}{m2}$	Fallout
S_dup_0	Fallout	$-\frac{U}{L}-$	$\frac{m1}{m2}$	Fallout

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Fig. 10**Fig. 11**

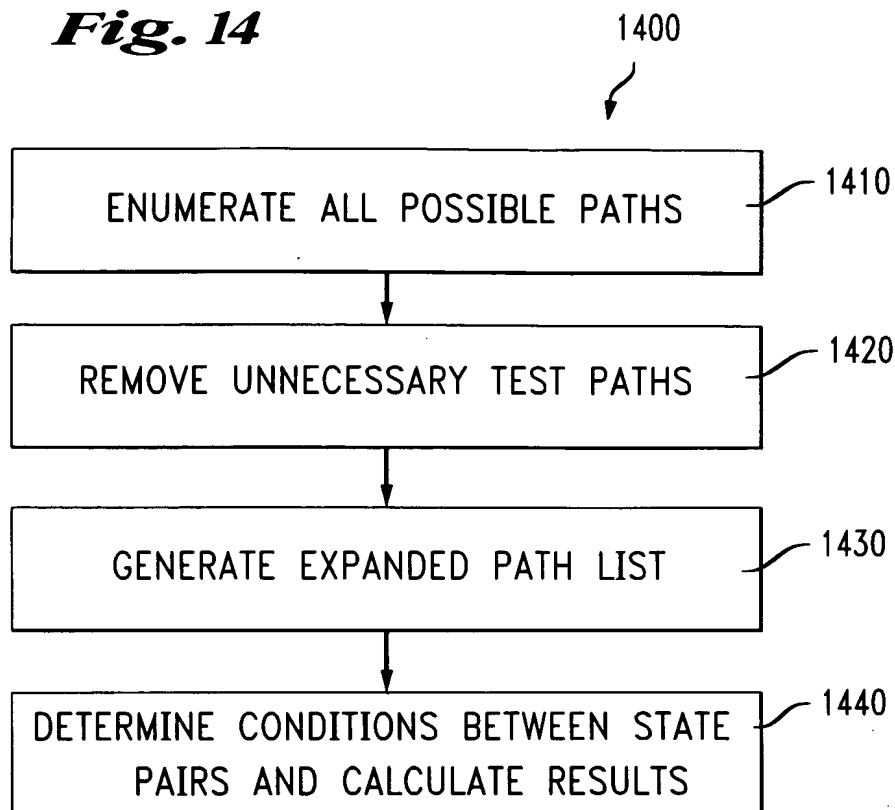
Source	Result-Code	Mail-Address	Action-Text	WC-Action
U	G-h-n	M11	"..."	Full-S
	G_dup	M12	"duplicate"	
	G_dup_0	M13		
	S_dep	M14		
	S_dep_0q	M15		
L	G-h-n	M21		
	G_dup	M22		
	G_dup_0	M23		
	S_dep	M24		
	S_dep_0q	M25		

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Fig. 12**Fig. 13**

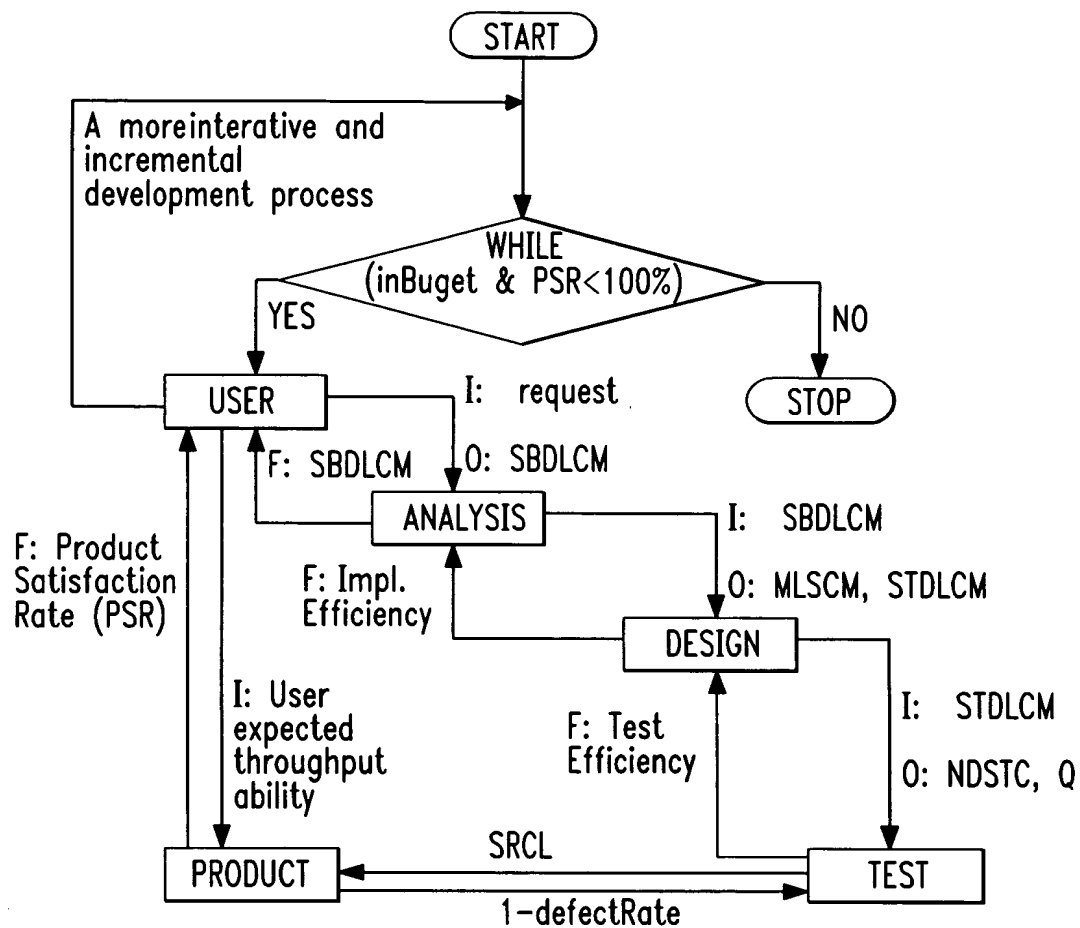
s1	s2	S_{i+1}
working	working	(no transition)
	fallout1	Fallout
	fallout2	Fallout
	succeed	(no transition)
fallout	working	Fallout
	fallout1	Fallout
	fallout2	Fallout
	succeed	Fallout
Succeed	working	(no transition)
	fallout1	Fallout
	fallout2	Fallout
	succeed	Succeed

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Fig. 14**Fig. 15**

Data Type	In-Weight
Short, long, float, double, char, bool	0.5
String	1.0
Enum, union, sequence	1.5
Any	4.0
Struct, object, exception	Sum of in- weights of subfields
Array, vector, linklist	1.0 + in-weight of element type

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Fig. 16

I: indicates input to the next stage;

O: indicates output of the stage;

F: indicates feedback to the previous stage.

SRCL: System release confidence level metric, presented in the attachment.